Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently amended) A method for identifying a tank containing a liquid from N number of tanks in a semiconductor manufacturing facility into which a batch of semiconductor products is to be processed, the method comprising:

receiving an incoming batch of products to be processed in a predetermined number of tanks housing the liquid;

identifying a batch number of the batch;

determining with a controller a recipe index from a modulus of N divided by the batch number; and

determining with the controller the tank into which the batch is to be processed from the modulus of the sum of the recipe index and the predetermined number of tanks, divided by N.

2.   (Original) The method of claim 1, wherein the batch number associated with the batch to be processed is representative of the number of batches that have been processed in the liquid in the tanks since the last time the liquid was changed.

3.   (Original) The method of claim 1, additionally comprising processing the incoming products in the tank identified.

4.   (Withdrawn) A method for identifying a tank housing a liquid from N number of tanks in a semiconductor manufacturing facility into which a batch of semiconductor products from a number of batches is to be processed, the method comprising:

generating R tank running sequence recipes each having S steps, wherein the total number of R recipes is N and a T tank is associated with each S step in each R recipe wherein T is modulus of the sum of R and S, divided by N;

receiving an incoming batch of products to be processed in the liquid;

identifying a number B of the batch associated with the products; and

determining the T tanks into which the batch is to be processed by identifying the R recipe associated with batch B by the modulus of N divided by B.

5. (Withdrawn) The method of claim 4, wherein N equals 3.

6. (Withdrawn) The method of claim 5, wherein S equals 1 and each recipe identifies one tank, wherein no recipe has the same two tanks identified.

7. (Withdrawn) The method of claim 5, wherein S equals 2 and each recipe identifies two tanks, wherein no recipe has the same two tanks identified.

8. (Withdrawn) The method of claim 5, wherein S equals 3 and each recipe identifies three tanks, wherein no recipe has the same three tanks identified.

9. (Withdrawn) The method of claim 4, additionally comprising assigning each of the N recipes to each of the B batches in a look-up table.

10. (Withdrawn) The method of claim 4, additionally comprising processing the incoming products in the tanks identified.

11. (Withdrawn) A method for scheduling the usage of liquid housed in N number of tanks in a semiconductor manufacturing facility for batches of semiconductor products, the method comprising:

generating R tank running sequence recipes each having S steps, wherein the total number of R recipes is N and a T tank is associated with each S step in each R recipe wherein T is

modulus of the sum of R and S, divided by N;

assigning each recipe R to at least one batch number B, wherein the R recipe for each batch number B is the modulus of N divided by B; and

storing the recipes and associated batch numbers.

12.   (Withdrawn) The method of claim 11, additionally comprising

receiving an incoming batch of products to be processed in the liquid;

identifying a number B of the batch associated with the products; and

retrieving the stored recipe associated with batch number B.

13.   (Withdrawn) The method of claim 12, additionally comprising processing the incoming products in the tanks identified.

14.   (Withdrawn) The method of claim 11, wherein R ranges from 0 to N-1 and R is an integer.

15.   (Withdrawn) The method of claim 11, wherein R ranges from 1 to N and R is an integer.

16.   (Withdrawn) The method of claim 11, wherein S ranges from 0 to 2 and for each S, no recipe has the same tanks identified.

17.   (Original) A system for identifying a tank housing a liquid from N number of tanks in a semiconductor manufacturing facility into which a batch of semiconductor products is to be processed in a predetermined number of tanks housing the liquid, the system comprising:

N number of tanks housing the liquid; and

a controller adapted for identifying a batch number of the batch of products, determining

a recipe number from the modulus of N divided by the batch number, and determining the tank into which the batch is to be processed from the modulus of the sum of the recipe number and the predetermined number of tanks, divided by N.

18.   (Original) The system of claim 17, additionally comprising a device configured to process the incoming products in the tank identified.

19.   (Withdrawn) A system for scheduling the usage of liquid housed in N number of tanks in a semiconductor manufacturing facility for batches of semiconductor products, the system comprising:

a recipe generator configured to identify the number of tanks N and the number of tanks per batch into which the products is to be processed and generate R recipes having S steps in each, wherein a T tank is associated with each S step in each R recipe, wherein T is modulus of the sum of R and S, divided by N, and wherein the total number of recipes is N.

a recipe-to-batch generator accessible to the recipe generator and configured to assign each recipe R to at least one batch number B, wherein the R recipe for each batch number B is the modulus of N divided by B; and

a memory accessible to the recipe generator and the recipe-to-batch generator to store the recipes and associated batch numbers.

20.   (Withdrawn) The system of claim 19, additionally comprising

N number of tanks housing the liquid;

a batch identification device configured to receive an incoming batch of products to be processed in the liquid and identify a batch number B of the batch of products; and

· a controller in communication with the batch identification device and the memory, wherein the controller is adapted to retrieve a stored recipe associated with batch number B.

21. (Currently amended) A system for identifying a tank housing a liquid from N number of tanks in a semiconductor manufacturing facility into which a batch of semiconductor products is to be processed in a predetermined number of tanks housing the liquid, the system comprising:

N number of tanks housing the liquid;

means for receiving a batch of products and identifying a batch number of the batch of products;

~~means for determining~~ a controller configured to determine a recipe number from a modulus of N divided by the batch number, the controller also being configured to determine; ~~means for determining~~ the tank into which the batch is to be processed from a modulus of the sum of the recipe number and the predetermined number of tanks, divided by N; and

means for processing the incoming products in the tank identified.